

Remarks

Reconsideration of this application as amended is respectfully requested.

Claims 1-13 stand rejected under 35 U.S.C. §101.

New claims 14-30 have been added.

The Examiner has stated that claims 1-13 recite a mathematical algorithm without any limitation to a practical application. Applicant submits that amended claim 1 and its dependent claims 2-7 recite statutory subject matter because amended claim 1 recites a method for evolving a graph structure and graph structures have utility in computer science applications. (See the statement of Art Background in Applicant's Specification). Applicant further submits that amended claim 1 recites statutory subject matter because the limitation in amended claim 1 of determining a genome representation for evolving the weights for the arcs in a graph structure such that the arcs that participate in a substructure of the graph structure are in a close proximity in the genome representation is a practical application that decreases the time and costs of designing graph structures. (See the statement of Art Background and the Summary of the Invention in Applicant's Specification).

Applicant also submits that amended claim 8 and its dependent claims 9-13 recite statutory subject matter. Amended claim 8 is a method for deriving a genome representation for evolving a set of weights in a graph structure such that the weights that participate in a substructure of the graph structure are in a close proximity in the genome representation. The method of amended claim 8 is a practical application because graph structures have utility in computer science applications and because the limitations in amended claim 8 for deriving a genome representation decrease the time and

costs of designing graph structures.

Applicant further submits that new claim 14 and its dependent claims 15-19 and new claim 20 and its dependent claims 21-25 recite statutory subject matter because new claims 14 and 40 recite a computer-readable storage media that includes limitations similar to the limitations of amended claims 1 and 8, respectively. Therefore, the remarks stated above with respect to amended claims 1 and 8 also apply to new claims 14 and 20.

Finally, applicant submits that new claims 26-30 recite statutory subject matter because new claim 26 upon which new claims 27-30 depend recites a method for designing a neural network that includes the limitation of determining a genome representation for a set of weights for a set of arcs in the graph structure such that the arcs that participate in a substructure of the graph structure are in a close proximity in the genome representation. Applicant submits that the method of new claim 26 of designing a neural network is a practical application because neural networks have utility in computer science applications and because the limitations of new claim 26 decrease the time and costs of designing neural networks. (See the statement of Art Background and the Summary of the Invention in Applicant's Specification).

It is respectfully submitted that in view of the amendments and arguments set forth above, the applicable objections and rejections have been overcome.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 08-2025 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

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